<u>Amendments to the Claims:</u>

Please cancel claims 1 and 13 without prejudice or disclaimer of the subject matter thereof, amend the claims as follows and add the following new claims.

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims:</u>

Claim 1 (canceled)

2. (currently amended) A living body photometric apparatus comprising:

a light source portion for irradiating light beams having predetermined frequencies to a plurality of positions in a measurement region of a subject during an interval including a period when giving a predetermined stimulation task to the subject and a period not giving the same;

an optical measurement portion for measuring light beams brought about by the irradiated light beams at a position near the light beam irradiation position and for determining measurement data at a plurality of measurement points from the measured light beams;

a signal processing portion for performing an imaging processing of the measurement data from the optical measurement portion and for calculating from the plurality of measured data at least one stimulation task signal of which a principal component is a signal brought about by the stimulation task given to the subject;

means for calculating an occupying ratio of the plurality of respective measured data in the stimulation task signal; and

a displaying means for displaying the stimulation task signal calculated and the calculated occupying ratio of the plurality of respective measured data in the stimulation task signal.

3. (original) A living body photometric apparatus according to claim 2, wherein the light source portion includes a light source for emitting a plurality of light beams having wavelengths near infrared region of which absorbances with respect to oxy hemoglobin and deoxy hemoglobin in blood of a living body are different, optical modules for modulating differently the wavelengths of the light beams emitted from the light source in the number corresponding to the irradiation positions and irradiation use optical fibers for transmitting the light beams output from the optical modules onto a plurality of different positions of the subject.

4. (currently amended) A living body photometric apparatus according to claim ~~2~~ 3, wherein the optical measurement portion includes a plurality of detection use optical fibers which are respectively disposed near the plurality of respective irradiation use optical fibers and guide and transmit the light beams passed inside the subject, a plurality of photo electric converting devices for converting the light beams transmitted by the respective detection use optical fibers into electrical signals, and a signal separation and extraction circuit for determining measurement data of the respective measurement points by making use of output signals of the plurality of photo electric converting devices.

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5. (original) A living body photometric apparatus according to claim 2, wherein the stimulation task signal is displayed in a waveform defined by two coordinate axes of signal intensity and time.

6. (original) A living body photometric apparatus according to claim 5, further comprising means for generating a stimulation response and reference pattern in response to the task stimulation of the living body and displaying the same on the displaying means while overlapping on the stimulation task signal waveform.

7. (currently amended) A living body photometric apparatus according to claim 6, wherein the stimulation response and reference pattern [[is]] are stored in a memory means.

8. (currently amended) A living body photometric apparatus according to claim 6, wherein the stimulation response and reference pattern [[is]] are determined when an operator inputs through an input means data for modifying the pattern with respect to a preset pattern.

9. (original) A living body photometric apparatus according to claim 2, further comprising means for displaying occupying ratios of the respective plurality of measurement data calculated in the stimulation task signal.

10. (original) A living body photometric apparatus according to claim 9, further comprising means for displaying a measurement data having the maximum occupying ratio among the occupying ratios of the respective plurality of

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measurement data calculated in the stimulation task signal in a discriminable manner from the other measurement data.

11. (currently amended) A living body photometric apparatus according to claim 9, further comprising means for calculating an average value after adding numerical values of the occupying ratios of the respective plurality of measurement data calculated in the stimulation task signal as well as for displaying the calculated average value after the addition near the on a graph.

12. (original) A living body photometric apparatus according to claim 6, further comprising means for calculating a correlation between the stimulation task signal and the stimulation response and reference pattern and for displaying the calculated correlation value in numerical value near the display positions thereof.

Claim 13 (canceled)

14. (currently amended) A living body photometric apparatus comprising:

a light source portion for irradiating light beams having predetermined frequencies to a plurality of respective positions in right and left temporal lobes of a subject during an interval including a period when giving a predetermined stimulation task to the subject and a period not giving the same;

an optical measurement portion for measuring light beams brought about by the irradiated light beams at a position near the light beam irradiation position and for determining measurement data at a plurality of measurement points from the measured light beams;

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a signal processing portion for performing an imaging processing of the measurement data from the optical measurement portion, further for performing principal component analysis for the plurality of measured data and for extracting a representative signal which most reflects a living body reaction when the stimulation task is given;

means for calculating contribution rates of the respective measurement signals with respect to the representative signal;

means for separating the calculated contribution rates of the respective measurement signals for the right and left temporal lobes and for averaging thereof after adding the same; and

a displaying means for displaying the averaged values after addition for the right and left temporal lobes determined by the averaging means after addition in a discriminable manner.

15. (original) A living body photometric apparatus according to claim 14, further comprising a calculating means for calculating hemisphere dominance representing which of right or left hemisphere in the brain of the subject responds dominantly to the stimulation task by making use of the averaged values after addition for the right and left temporal lobes.

16. (original) A living body photometric apparatus according to claim 15, further comprising means for displaying the hemispheric dominance determined by the calculation means on a display screen of the displaying means.

17. (original) A living body photometric apparatus according to claim 16, wherein the discrimination of the right and left hemispheres is effected by symbols or letters and the degree of the hemispheric dominance is displayed by numerals.

18. (new) A living body photometric apparatus comprising:

a plurality of light source portions, each of the light source portions irradiating light beams having predetermined frequencies to an inside portion of a subject during an interval including a period when giving a predetermined stimulation task to the subject and a period not giving the same;

a plurality of optical measurement portions, each of the optical measurement portions measuring light beams brought about by the irradiated light beams to determine a hemoglobin variation signal in a time course; and

a signal processing portion which calculates from the respective determined hemoglobin variation signals in a time course at a plurality of measurement points defined respectively between the plurality of light source portions and the plurality of optical detection portions, at least one stimulation task signal of which a principal component is a signal brought about by the stimulation task given to the subject, the signal processing portion correlating the calculated at least one stimulation task signal pattern with a reference hemoglobin variation signal pattern selected for the stimulation task and specifying one measurement point among the plurality of the measurement points which responds most to the stimulation by making use of one stimulation task signal in a time course which shows the highest correlation with the reference hemoglobin variation signal in a time course.

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19. (new)　　A living body photometric apparatus according to claim 18, further comprising a means for displaying the reference hemoglobin variation signal pattern in a time course in an overlapping manner with the at least one stimulation task signal in a time course.

20. (new)　　A living body photometric apparatus according to claim 19, further comprising a memory means which stores the reference hemoglobin variation signal pattern in a time course.

21. (new)　　A living body photometric apparatus according to claim 19, further comprising an input means through which modification information to a predetermined pattern is inputted to determine the reference hemoglobin variation signal pattern in a time course selected for the predetermined stimulation task.

22. (new)　　A living body photometric apparatus according to claim 19, wherein the displaying means displays as bars in a bar graph respective occupying ratios of the respective hemoglobin variation signals in a time course at the plurality of measurement points in the at least one stimulation task signal in a time course.

23. (new)　　A living body photometric apparatus according to claim 22, wherein the displaying means displays a bar in the bar graph representing one measurement point showing the highest occupying ratio in discriminable manner from other bars.

24. (new)   A living body photometric apparatus according to claim 22, wherein the displaying means displays an average of a plurality of occupying ratios near the bars of which occupying ratios are averaged in the bar graph.

25. (new)   A living body photometric apparatus according to claim 19, wherein the displaying means displays a correlation value of the at least one stimulation task signal pattern in a time course with the reference hemoglobin variation signal pattern in time course selected for the stimulation task near the displayed portion thereof.

26. (new)   A living body photometric apparatus according to claim 19, wherein the displaying means displays one of the at least one stimulation task signal pattern in a time course showing the highest correlation value in a different color from of the at least one stimulation or task signal pattern others.

27. (new)   A living body photometric apparatus according to claim 23, wherein the displaying means displays a bar in the bar graph representing one measurement point showing the highest occupying ratio in a different color from that of the other bars.

28. (new)   A living body photometric apparatus comprising:

    a plurality of light source portions, each of the light source portions irradiating light beams having predetermined frequencies to an inside portion of a subject during an interval including a period when giving a predetermined stimulation task to the subject and a period not giving the same;

a plurality of optical measurement portions, each of the optical measurement portions measuring light beams brought about by the irradiated light beams to determine a hemoglobin variation signal in time course;

a signal processing portion which performs image processing of the respective determined hemoglobin variation signals in a time course at a plurality of measurement points defined respectively between the plurality of light source portions and the plurality of optical detection portions, the signal processing portion extracts a representative signal which most reflects a living body reaction when the stimulation task is given to the subject by subjecting the respective determined hemoglobin variation signals to a principal component analysis, the signal processing portion correlating the extracted representative signal pattern in a time course with a reference hemoglobin variation signal pattern selected for the stimulation task and specifying one measurement point among the plurality of the measurement points which responds most to the stimulation by making use of the representative signal which shows the highest correlation with the reference hemoglobin variation signal in a time course; and

a display means which displays the signals at least one of processed and extracted by the signal processing portion.